CHAPTER 4. THE ADVANCED QUALIFICATION PROGRAM

SECTION 1. DISTINGUISHING FEATURES OF THE ADVANCED QUALIFICATION PROGRAM

727. GENERAL. This chapter contains information, direction, and guidance to be used by Federal Aviation Administration (FAA) personnel responsible for the evaluation, approval, and surveillance of flightcrew training programs conducted under Special Federal Aviation Regulation (SFAR) 58 by Federal Aviation Regulations (FAR) Part 121 or 135 air carrier certificate holders, or by a training center for such operators. The advanced qualification program (AQP) provides certificated air carriers with a voluntary alternative for training, qualifying, and certificating aircrew personnel. AQP was established to permit a greater degree of regulatory flexibility for the approval of innovative pilot training programs tailored to an individual operator's needs and circumstances. AQP provides a systematic basis for matching technology to training requirements and for approving training program content based on relevance to operational performance. Based on a documented analysis of operational requirements, an air carrier under AQP may propose to depart from traditional practices with respect to what, how, when, and where training and testing is conducted, subject to FAA approval of the specific content of each proposed program.

729. CHARACTERISTICS OF AQP. The principal differences between AQP and traditional FAR Part 121 or 135 training programs are as follows:

A. Job Task Analysis and Qualification Standards. Programmed hours are replaced by a proficiency-based curriculum. Proficiency requirements are embodied in applicant-developed qualification standards, which specify the performance, standards, and conditions to be employed for training or evaluation purposes. Qualification standards are derived from a job task analysis that is specific to an individual carrier's aircraft, operating environment, and pilot population. The job task analysis documents each major task and subtask, together with their associated knowledge and skills, to be addressed in an AQP curriculum. AQP job task analysis and qualification standards are aircraft make, model, series, variant, and duty-position specific. The content of the job task analysis and qualification standards derived therefrom must be approved by the FAA.

B. Replacement of Certain Requirements. An applicant may propose to replace certain requirements of FAR Parts 61, 121, or 135 with an AQP curriculum, subject to FAA Headquarters approval. An AQP may employ substitutes for the practical test requirements of FAR Part 61, such as the progressive sign-off of knowledge and individual maneuver proficiency in training, and replacement of a maneuver-oriented final check ride with an approved line operational evaluation (LOE) focusing on the integration of technical and crew resource management (CRM) skills. Each requirement of FAR Parts 61, 121, or 135 that is not specifically addressed in an approved AQP curriculum continues to apply to the certificate holder. For all applicants, approved AQP qualification standards replace FAR Part 61, Appendix A and the Practical Test Standards (PTS); FAR Part 121, Appendix E; and FAR Part 121, Appendix F. AQP requires that all departures from traditional regulatory requirements be justified based on a level of analysis sufficient to establish at least an equivalent level of safety.

C. Crew-Oriented Training and Evaluation. AQP emphasizes crew-oriented training and evaluation. It extends this concept from line-oriented flight training (LOFT) and special purpose operational training (SPOT) to LOE. It requires that an AQP curriculum not only include scenario-based training conducted, where feasible, with a full crew in a flight simulator or flight training device, but that proficiency evaluations be conducted on the same basis, where feasible. LOFT/SPOT/LOE scenarios must be approved for their intended use in an AQP by the appropriate FAA authority in the responsible Flight Standards District Office (FSDO). LOFT/SPOT/LOE scenarios must be designed to provide the opportunity for training or evaluation, as appropriate, on approved AQP qualification standards.

D. Crew Resource Management. Training of CRM is mandatory. A means of evaluating the effectiveness of such training is also mandatory, but pass/fail CRM standards are not required. Applicant-developed pilot evaluation strategies must at least include provisions for assessing the extent to which poor CRM skills are a contributory factor in a pilot's failure to meet technical standards of operational flight

performance in proficiency evaluations and line checks.

E. Evaluation Periods. In order to facilitate crew-oriented training, AQP establishes a common time interval, called an evaluation period, for training and evaluation of all cockpit crew personnel. The duration of an evaluation period in an AQP approved for initial operations is 12 months, plus or minus 1 month. Each evaluation period must include at least one training session devoted to both training and evaluation activities. Under AQP, training or checking for pilots-in-command (PIC) at 6-month intervals is replaced by a full crew line check conducted at the midpoint of each evaluation period, plus or minus 1 month. AQP also includes limited provisions for extending these intervals under certain circumstances following program implementation, based upon the acquisition of data, acceptable to the FAA, which would justify doing so. The FAA may approve extension of evaluation periods in 3-month increments, up to a maximum of 26 months.

F. Single-Visit Training Program (SVTP). In order to facilitate transition to an annualized training and evaluation schedule for all crews, pending the implementation of AQP across all fleets, AQP applicants may request an exemption to permit an SVTP. Application for an SVTP exemption is made in accordance with FAR § 11.25. It is FAA policy that exemption to permit an SVTP shall only be granted to FAR Part 121 and FAR Part 135 air carriers who have applied for AQP. The SVTP exemption shall be renewed at 2-year intervals, subject to a determination by the FAA that reasonable progress towards AQP implementation has been accomplished by the air carrier. AQP applicants must provide the FAA with a planned schedule for transitioning all pilots in all fleets to the AQP. Such scheduling will normally be structured to occur on a staggered basis over a period of years.

G. Two Curriculums. AQP collapses the traditional categories of air carrier pilot training into two distinct curriculums:

(1) AQP Qualification Curriculum. This includes Initial Equipment Training, Transition Training, and Upgrade Training (Different Aircraft).

(2) AQP Continuing Qualification Curriculum. This includes Recurrent Training, Requalification Training, and Upgrade Training (Same Aircraft).

NOTE: AQP retains the existing category of Indoctrination Training.

H. Additional Requirements. AQP requires the development and implementation of approved AQP indoctrination, qualification, and continuing qualification curriculums for all pilots, AQP instructors and AQP evaluators, including the specification of qualification standards for such personnel (AQP entails no changes to the regulatory eligibility requirements for such personnel). AQP requires that aviation safety inspectors (ASI) who will be responsible for surveillance of an air carrier's AQP be familiar with the specifics of that carrier's approved program. ASI's who will be responsible for conducting pilot certification under an air carrier's approved AQP curriculum must have attended that air carrier's training course for AQP evaluators in that curriculum. ASI's may meet this AQP requirement by attending the air carrier's differences course for existing instructors and check airmen.

I. Data Reporting. AQP requires air carriers to report data on aircrew, instructor, and evaluator performance in training and evaluation to the Advanced Qualification Program Branch (AFS-230) at FAA Headquarters. This data must be submitted in a digital electronic format approved by AFS-230 to facilitate trend analysis for program validation and safety surveillance purposes. All such data is de-identified with respect to individual pilots. AQP data augments, but does not replace, inspector physical surveillance of air carrier pilot training and evaluation programs.

J. Conformance to Handbook Standards. In most other respects, AQP follows the direction and guidance provided in volume 3, chapter 2, for training programs and airman qualification. All AQP curriculums must be structured in accordance with the guidance provided in volume 3, chapter 2, for segment, module, lesson, and element. Similarly, procedures for the qualification of flight training equipment are identical under AQP. However, an applicant may propose to depart from the permissible-use tables for flight training equipment provided in volume 3, chapter 2, section 6, subject to acceptable justification and FAA approval of the intended use of such equipment in a specific AQP curriculum. Although AQP follows its own phased approval process, the activities described in volume 3, chapter 2, with respect to inspector review of curriculum content, as well as inspector monitoring and evaluation of initially approved training curriculums, are virtually identical under AQP.

K. Headquarters Approval of Training Programs. AQP application, development, and approval is centrally managed by AFS-230.

731. KEY CONCEPTS AND SPECIAL TERMINOLOGY. AQP employs certain unique concepts and terminology. The following is an expla-

nation of selected concepts and terms that are pertinent to inspector review, surveillance, and approval activities:

A. Terminal and Supporting Proficiency Objectives. Terminal proficiency objectives (TPO) generally are derived at the task level from the job task analysis. They reflect the end-level proficiency to be achieved in training and demonstrated in evaluation. Supporting proficiency objectives (SPO) generally are derived at the subtask level from the job task analysis. They reflect the subtasks on which proficiency must be achieved in training in order to perform at a satisfactory level on a given TPO. However, a consistent one-to-one correlation between all tasks/subtasks and TPO's/SPO's is not expected. Multiple TPO's may be derived from a single task, or multiple tasks may produce a single TPO, depending on how significantly the performance is altered due to conditions and/or contingencies. Both TPO's and SPO's require specification of the performance to be accomplished, the standards that must be met or exceeded to demonstrate proficiency, and the conditions under which training or evaluation of performance will be conducted. A complete list of TPO's and SPO's would encompass all major tasks and subtasks for all phases of flight.

B. Qualification Standards. When an AQP TPO or SPO is coupled with a training and/or evaluation strategy, together with specification of a media range, the result is an AQP qualification standard. Qualification standards created at the terminal level generally reflect objectives for pilot evaluation, although some such objectives may be addressed only in training to proficiency in the applicant's approved AQP. Qualification standards created at the supporting level generally reflect objectives for pilot training, although some such objectives may also be identified for checking in the applicant's approved AQP. Figure 3.4.1.1. presents an example of an AQP qualification standard established at the terminal level.

NOTE: Variation in the format of a given air carrier's qualification standards is permissible, provided that all of the categories of information in the example are addressed.

C. Currency Events. An AQP applicant may elect to identify certain TPO's as currency events, based on an analysis of the frequency with which a given flight task and condition set occurs during line operations. Candidates for such a designation include only those tasks on which skills are maintained by virtue of their frequent exercise in flight, such as normal takeoff in fair weather. The purpose of identifying currency events is to enable training and evaluation to focus on areas of greatest need. Approved currency events do not need to be specifically trained in continuing qualification curriculums, provided that the applicant implements a means acceptable to the FAA of periodically verifying that proficiency on such items is being maintained. As a minimum, proficiency on currency events shall be assessed during on-line evaluations.

D. Continuing Qualification Cycles. An AQP continuing qualification cycle is comprised of two evaluation periods of equal duration (plus or minus 1 month). For an AQP approved for initial operations, a continuing qualification cycle has a duration of 24 months (plus or minus 1 month), incorporating 2 evaluation periods, each of which is 12 months long, plus or minus 1 month). AQP also contains limited provisions for extending the duration of a continuing qualification cycle under certain circumstances following program implementation, based upon the acquisition of data acceptable to the FAA which would justify doing so. The FAA may extend a continuing qualification cycle in 3-month increments up to a maximum of 39 months.

E. Criticality of Proficiency Objectives. An applicant may elect to identify certain TPO's as critical or non-critical, based on the applicant's job task analysis. The principal consideration with respect to criticality is the frequency of proficiency training or evaluation required to ensure a margin of safety with respect to pilot performance. Critical TPO's must be evaluated during every evaluation period. Under an AQP approved for initial operations, this means that evaluation of critical TPO's must occur within 12 months, plus or minus 1 month. Training or evaluation of non-critical TPO's for such a curriculum must occur within every continuing qualification cycle. For initially approved AQP's, this means that evaluation of non-critical TPO's must occur within a 2-year interval, plus or minus 1 month. If the applicant elects not to categorize TPO's in terms of criticality, all TPO's derived from the applicant's job task analysis shall be considered critical.

F. First Look. Since the interval between training and checking in AQP may exceed traditional regulatory time limits, AQP employs a method known as First Look to assess the extent to which pilot skill degradation may have occurred between AQP training sessions. First Look entails the assessment of level of proficiency on a selected sample of maneuvers the first time they occur in training (prior to the repeated execution or training of any such maneuvers). The maneuvers to be addressed on a sampled basis in a given applicant's First Look shall be specified in the applicant's approved AQP.

G. Evaluators. AQP entails no changes to the existing policies and procedures as they apply to the eligibility requirements for aircrew program designees (APD), air transport pilot examiners (ATPE), or authorized training center evaluators, nor to the FAA approval process for such personnel, nor to the FAA management of such personnel. However, under an approved AQP, an applicant may employ alternatives

to the practical test requirements of FAR Parts 61, 121, and 135. Therefore, APD's, ATPE's, and authorized training center evaluators must be qualified to conduct airman certification in accordance with the respective air carrier's approved AQP. This must be accomplished by completion of approved AQP evaluator indoctrination and qualification curriculum modules for new personnel, or a differences course for existing such personnel, and the maintenance of such qualification under an approved AQP evaluator continuing qualification curriculum.

(1) APD's, ATPE's, Training Center Evaluators, and FAA Inspectors. These personnel must be authorized by the respective principal operations inspector (POI) to conduct airman certification for a given air carrier's AQP.

(2) Other Evaluators. In addition to APD's, ATPE's, and training center evaluators authorized to conduct certification, AQP recognizes other categories of evaluators who do not have signatory authority for certification, such as ground school evaluators or proficiency check airmen. In most cases, such individuals will also serve in the role of curriculum instructors. All such individuals must complete evaluator indoctrination, qualification, and continuing qualification training that qualifies them to assess proficiency on the type of activities for which they are responsible within a given AQP curriculum, in addition to complying with existing FAA eligibility requirements and approval procedures.

733. INSTRUCTORS. AQP entails no changes to the eligibility requirements for instructors. All new instructors must complete FAA-approved AQP indoctrination, qualification, and continuing qualification curriculums that qualify them for the instructional duties for which they are responsible in a given AQP curriculum. Instructor and evaluator AQP curriculums may be combined in a modular fashion. For existing instructors, an approved AQP differences curriculum may be employed for transition to an initial AQP in a given aircraft.

735. TRAINING AND EVALUATION UNDER AQP.

A. Training Sessions. For continuing qualification curriculums, a training session shall begin with a First Look in which performance on a sampling of critical and non-critical TPO's shall be graded.

Although the applicant may elect to schedule simulator time dedicated to First Look, it is not required. First Look data may be obtained during a normally scheduled LOFT, SPOT, or by assessment on an individual maneuver basis, or a combination thereof, as long as the requirement to make such assessments on the first occasion of the maneuver in training is maintained. The remainder of the continuing qualification training session will entail a combination of LOFT, SPOT, and individual maneuvers (event sets) conducted on a full crew-oriented basis, where feasible. The content of such training must be in accordance with the applicant's approved continuing qualification curriculum. LOFT scenarios must be approved for their intended use by the POI.

B. Proficiency Evaluations. For PIC's, seconds-in-command (SIC), and flight engineers (FE), at least one proficiency evaluation must be completed during each evaluation period. While such evaluations will normally be scheduled to occur in conjunction with a training session, an applicant's approved AQP may permit that they be otherwise scheduled. Proficiency evaluations shall be conducted using LOE and a full crew, where feasible. LOE scenarios must be approved for their intended use by the POI. LOE's may be supplemented by individual maneuver (event sets), when necessary.

C. On-line Evaluation. Each PIC must receive at least one on-line evaluation (line check) per evaluation period, scheduled to occur at the midpoint (plus or minus 1 month) of the period. Under an AQP approved for initial operation, the PIC on-line evaluation shall occur at 6 months, plus or minus 1 month, following a training session. Although scheduling of on-line evaluations shall be determined solely on the basis of PIC requirements, when such line checks are conducted they shall include all cockpit crewmembers present.

D. Extensions. The FAA may approve extensions of the continuing qualification cycle and evaluation period, in increments not exceeding 3 calendar months, upon demonstration by an applicant that the extension is warranted. To obtain approval for extension, an applicant must show that individuals subject to the AQP are able to maintain their knowledge and skills under the already approved schedules and that a rational basis exists for believing that no loss of knowledge, skill, or abilities would result from the extension. An extension shall be allowed to continue, or an additional extension shall be granted, only if an operator's record and independent FAA evaluation show that the extension is appropriate as a means to maintain or increase the level of crewmember competency. The FAA will consider duration extensions if evidence substantiates that the extension will maintain or increase the level of safety in air transportation. This could occur, for example, if the applicant proposes to increase the number of training sessions per evaluation period. The number and frequency of

training sessions must be approved by AFS-230. The maximum permissible duration of a continuing qualification cycle is 39 months, and the maximum permissible duration of an evaluation period is 26 months. Extensions beyond the initial evaluation and continuing qualification cycle periods permitted by AQP (12 and 24 months respectively plus or minus 1 month) will require strong justification, and shall only be issued by AFS-230.

E. Validation. AQP curriculums shall be subject to continued demonstration of overall effectiveness. This demonstration shall be based on physical surveillance by FAA personnel, as well as on the submission of de-identified data on pilot performance to the FAA for program tracking and trend analysis purposes. Such data shall be submitted on both qualification and continuing qualification curriculums, and shall include such information as First Look and proficiency evaluation grades on TPO's, repetitions to proficiency, and the frequency of occurrence of CRM factors in substandard technical performance. All such data shall be submitted in digital electronic format directly to AFS-230. The detailed requirements for data acquisition and reporting for a given applicant will be specified in that applicant's approved AQP. Since an AQP may be customized to a particular operator's circumstances, data requirements may differ between applicants. AFS-230 shall provide POI's with quarterly written reports in graphical and narrative format summarizing the significant content of each applicant's AQP trend analysis. In addition, each applicant is responsible for analysis of data and initiation of refinements to its AQP, as warranted.

F. Establishment of a Designated Examiner Program Under AQP. Under the philosophy of AQP as it pertains to pilot training, the POI's activities should be focused on the review of curriculum content, approval of line-operational scenarios (LOFT, SPOT, and LOE), surveillance of initial and continuing instructor and evaluator qualification, and verification of compliance with AQP qualification standards. In order to execute this philosophy effectively, an air carrier designated examiner (ADE) or ATPE program must be in place prior to initial operation of an AQP pilot training curriculum. For regional airlines that do not already have such a program, an ATPE program should be established in accordance with volume 5, chapter 5.

736.-746. RESERVED.

FIGURE 3.4.1.1.
XYZ AIRLINES, INC.
AQP QUALIFICATION STANDARD (TERMINAL)
DATE: 12/06/93 REVISION NUMBER: 0

AIRCRAFT: Boeing 757, 767-200, 767-300, 767-300ER

PHASE OF FLIGHT: 6 APPROACH

TASK: 6.4 PERFORM CAT II PRECISION APPROACH OPERATIONS

CREW (DUTY) POSITION: CAPTAIN (PF)*
ER FIRST OFFICER (PNF)*
FIRST OFFICER (PNF)*

CRITICALITY: Yes

CURRENCY: No

CURRICULUM	SEGMENTS				
QUALIFICATION	SPEC PURP	GRND TRNG	FLT TRNG	OE	EVAL
			X		X
CONTINUING QUALIFICATION	SPEC PURP	GRND TRNG	FLT TRNG	LINE CH	P-CHECK
			X		EVERY

MEDIA (MINIMUM FOR EVALUATION)	CLASS/ BRIEF	CBT	CAPT	FTD	SIM	AIRCRAFT
				LEVEL 5	LEVEL C	

PERFORMANCE STATEMENT:
The pilot will demonstrate the ability to perform Precision Approach Operations by performing CAT II ILS Precision Approach/Preparation and Final Approach Procedures, by programming the FMC while complying with ATC clearances and appropriate navigation procedures, operating the Autopilot Flight Director System in LEVEL 3 of Automation, monitoring flight and navigation instruments, monitoring approach progress on Map Display, configuring the aircraft, complying with standard policies and limitations, and completing Before Landing Checklist.

*In this Standard, the Captain is designated as Pilot Flying (PF), and as such is responsible for the performance of both procedure and maneuver standards. The F/O, is designated as Pilot Not Flying (PNF), and is responsible for the performance of procedures and a knowledge of the tolerances within the maneuver standards.

CONDITIONS:

NATURAL ENVIRONMENTAL:

TEMPERATURES
TEMPERATURE 38F TO 100F

FIGURE 3.4.1.1.—Continued
XYZ AIRLINES, INC.
AQP QUALIFICATION STANDARD (TERMINAL)

WINDS
CROSSWIND 10 KNOTS OR GREATER

VISIBILITY
VISIBILITY 1200 RVR (CAPT CERTIFICATION)

AIRCRAFT CONFIGURATION:

GROSS WEIGHT HEAVY
757 - 175K TO 195K
767-200 - 245K TO 265K
767-300 - 260K TO 290K
767-300ER - 270K TO 300K

STANDARDS:

PROCEDURES:

ACCOMPLISH CHECKLISTS WITHOUT ERROR OR OMISSION

IN ACCORDANCE WITH XYZ AIRWAY MANUAL, PROCEDURES, WEATHER AND TERMINAL SECTIONS

IN ACCORDANCE WITH XYZ PILOTS OPERATING MANUAL, NORMAL PROCEDURES, ABNORMAL, SUPPLEMENTAL AND LIMITATIONS SECTIONS

IN ACCORDANCE WITH XYZ PILOTS REFERENCE MANUAL, FLIGHT TRAINING SECTION

MANEUVERS:

COMPLIES WITH ATC CLEARANCES AND RESTRICTIONS

COMPLIES WITH CURRENT PRECISION APPROACH PLATE PROCEDURES

PRIOR TO FINAL APPROACH SEGMENT MAINTAINS HEADING WITHIN + OR - 10 DEGREES

PRIOR TO FINAL APPROACH SEGMENT MAINTAINS ALTITUDES WITHIN + OR - 100 FEET

PRIOR TO FINAL APPROACH SEGMENT MAINTAINS AIRSPEED WITHIN + OR - 10 KNOTS

PRIOR TO FINAL APPROACH SEGMENT INTERCEPTS AND TRACKS COURSES, RADIALS, AND BEARINGS

DISCONTINUES THE APPROACH ANY TIME FULL SCALE DEFLECTION OF THE HSI CDI OCCURS DURING THE FINAL APPROACH SEGMENT

AVOIDS DESCENT BELOW LOCALIZER MINIMUMS IF THE AIRCRAFT IS MORE THAN 1 DOT BELOW OR 2 DOTS ABOVE THE GLIDE SLOPE. IF THE GLIDE SLOPE IS RECAPTURED TO WITHIN THE ABOVE TOLERANCE, DESCENT MAY BE CONTINUED TO THE DECISION REGION

(FOR 757/767-200) MAINTAINS TARGET AIRSPEED ON FINAL APPROACH WITHIN + OR - 5 KNOTS

(FOR 767-300/300ER) MAINTAINS TARGET AIRSPEED ON FINAL APPROACH WITHIN -5 TO + 10 KNOTS

MAINTAINS VREF 30 + 5 AS TARGET AIRSPEED ON FINAL APPROACH WITHIN + OR - 5 KNOTS DURING AUTOLAND OPERATIONS WITH AUTOTHROTTLES ENGAGED

MAINTAINS A MAXIMUM OF 1/3 DOT LOCALIZER DISPLACEMENT WHILE IN THE DECISION REGION WITH NO SUSTAINED OSCILLATIONS

MAINTAINS A MAXIMUM OF 1/2 DOT GLIDESLOPE DISPLACEMENT WHILE IN THE DECISION REGION WITH NO SUSTAINED OSCILLATIONS

FIGURE 3.4.1.1.—Continued
XYZ AIRLINES, INC.
AQP QUALIFICATION STANDARD (TERMINAL)

AVOIDS DESCENT BELOW EITHER DECISION ALTITUDE OR RADIO ALTITUDE BEFORE INITIATING A MISSED APPROACH PROCEDURE OR TRANSITIONING TO A VISUAL LANDING

TRANSITIONS TO A NORMAL LANDING APPROACH WHEN THE AIRCRAFT IS CONTINUOUSLY IN A POSITION TO MAKE A VISUAL LANDING OR FOLLOWS THROUGH ON THE CONTROLS DURING AN AUTOLAND

INITIATES THE MISSED APPROACH PROCEDURE IF THE REQUIRED VISUAL REFERENCES FOR THE INTENDED RUNWAY ARE NOT DISTINCTLY VISIBLE AND IDENTIFIABLE AT EITHER THE DECISION ALTITUDE OR RADIO ALTITUDE, WHICHEVER OCCURS FIRST

REFERENCES:
Pilots Checklist
XYZ Pilots Reference Manual, Flight Training Section
XYZ Pilots Operating Manual, Normal Procedures, Abnormal Procedures, Supplemental and Limitations Section
XYZ Airway Manual, Procedures, Weather and Terminal Sections

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